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25. A method for measuring the properties of a formation traversed by a borehole in which a directional seismic or sonic signal is generated downhole and is propagated into the surrounding formation and an electrokinetic signal generated by the seismic or sonic signal is detected by detecting means and in which the spatial distribution of the outgoing seismic signal is adjusted so that the electrokinetic signals are generated from different zones around the source of the seismic or sonic signal.

26. A method as claimed in Claim 25 in which the seismic signal is generated by the generation of a seismic or sonic shock downhole which propagates a seismic signal into the surrounding rock.

27. A method as claimed in Claim 25 in which the direction of the seismic signal is varied in three dimensions azimuthally with respect to the source of the seismic shock in the borehole.

28. A method as claimed in Claim 26 in which the direction of the seismic shock is rotated radially about a circle with the source of the seismic shock at the centre of the circle.

29. A method as claimed in Claim 26 in which the direction of the seismic shock is rotated radially about a circle with the source of the seismic shock at the centre of the circle.

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30. A method as claimed in Claim 28 in which the direction of the seismic signal is varied mechanically by physically turning the source.

31. A method as claimed in Claim 28 in which the seismic signal is substantially uni-directional and the source is rotated so the direction of the seismic signal is rotated and is also moved so that the direction of the seismic signal moves up and down.

32. A method as claimed in Claim 28 in which the seismic signal is propagated omni-directionally and a shield with an aperture is positioned around the source so that the seismic signal propagates through the aperture and the direction of the seismic signal is changed by moving the location of the aperture.

33. A method as claimed in Claim 25 in which the direction of the seismic signal is changed by wave interference or wave interaction of two or more sources acting together to produced a seismic signal which is focused in a particular direction or location and by varying the frequency, amplitude and/or phases of the sources of the seismic signal the spatial distribution, direction and location of the outgoing seismic signal is changed.

34. A method as claimed in Claim 26 in which the direction of the seismic signal is changed by wave interference or wave

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interaction of two or more sources acting together to produced a seismic signal which is focused in a particular direction or location and by varying the frequency, amplitude and/or phases of the sources of the seismic shock the spatial distribution, direction and location of the outgoing seismic signal is changed.

35. A method as claimed in Claim 25 in which the source of the seismic signal is positioned substantially centrally within the borehole and is not in contact with the borehole wall.

36. A method as claimed in Claim 33 in which there are two or more separate sources of the seismic shock spaced apart from each other and there are means to vary the amplitude, frequency and/or phase independently and the source of the seismic signal propagates a seismic signal in substantially all directions so that the direction of the combined signal produced can be varied in three dimensions.

37. A method as claimed in Claim 36 in which each seismic source continuously emits sound simultaneously on at least two finite frequencies with the resultant oscillation being the sum of the various sinusoidal pressure oscillations and by variation and combination of these signals the direction of the combined signal is varied.

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38. A method as claimed in Claim 36 in which the electrokinetic signals generated are amplified and demodulated with respect to the source frequencies and the amplitude and phase relative to the source sampled at a frequency of 1-100 Hz per channel and converted from analogue to digital form, of 12 or 16 bit accuracy.

39. A method as claimed in Claim 25 in which the seismic signal is generated whilst the source of the seismic signal is lowered or raised up from the borehole to provide a continuous or semi-continuous measurement of rock along the borehole.

40. Apparatus for measuring the properties of rocks surrounding a borehole, which apparatus comprises a casing adapted to be lowered down a bore hole, in which casing there is a seismic source means for generating seismic signals and a means for varying the direction of the seismic signal and having associated therewith, a means adapted to detect electrical signals generated in the rock surrounding the bore hole by the effect of a seismic signal generated by the seismic source means.

41. Apparatus as claimed in Claim 40 in which the seismic source means for generating the seismic signals generates a series of pressure pulses or a continuous pressure oscillation, at one or more finite frequencies.

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42. Apparatus as claimed in Claim 40 in which the seismic source means for generating the seismic signals is a magnetostrictive or piezoelectric transducer whose signal is controllable electrically.

43. Apparatus as claimed in Claim 40 in which the seismic source means for generating a seismic signal comprises a cylindrical chamber having holes in its side, which, when downhole, will be full of drilling fluid with the sides of the chamber being close to the sides of the borehole, there being a means to transmit a shock or applied force to the fluid in the chamber so as to cause the shock to be transmitted through the fluid in the chamber through the holes into the surrounding rock.

44. Apparatus as claimed in Claim 40 in which the electrical receiver consists of one or two pairs of electrodes forming a short dipole antenna with electrically isolated ends or two coils with electrically isolated lines, the ends of which being connected to an amplifier which amplifies the signals whilst keeping them electrically isolated.

45. Apparatus as claimed in Claim 41 in which there are means to physically turn the seismic source means to vary the direction of the seismic signal.

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46. Apparatus as claimed in Claim 41 in which there is a shield with an aperture positioned around the seismic source which source is adapted to propagate a seismic signal omni-directionally so that the seismic signal generated propagates through the aperture and there are means to move the location of the aperture so the direction of the seismic signal is varied.

47. Apparatus as claimed in Claim 41 in which there are two or more sources of seismic signals acting together and means to vary the direction of the seismic signal by wave interference or wave interaction of the two or more sources to produce a seismic signal which is focused in a particular direction or location and means to vary the frequency, amplitude and/or phases of the sources of the seismic shock to change the spatial distribution, direction and location of the outgoing seismic signal.

48. Apparatus as claimed in Claim 41 in which there are two or more separate sources of the seismic shock spaced apart from each other and there are means to vary the amplitude, frequency and/or phase independently of the seismic shock, the source of the seismic shock being able to propagate a seismic signal in substantially all directions so that the direction of the combined signal produced can be varied in three dimensions.